

REMARKS

Claims 3 and 5 have been cancelled without prejudice. Claims 1, 4 and 6 have been amended as set forth above. Accordingly, claims 1, 2, 4 and 6 remain for consideration in this application.

Claims 1-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over APA (Admitted Prior Art) in view of Manohar (USP 6,658,888).

Claims 3 and 5 have been cancelled without prejudice.

Manohar discloses a multistage compressor system which includes a compressor 222a (stage I) and a compressor 222b (stage II). The coolant flows into compressor 222a (stage I) and then into inter cooler 224a. From there pressurized coolant flows into compressor 222b (stage II) and then into inter cooler 224b. From inter cooler 224b, the high pressure coolant flows into expansion device 226 and subsequently into evaporator 228. Fluid medium 238 flows into inter cooler 224b and then into inter cooler 224a to take heat from them.

Claim 1 has been amended as set forth above to clearly distinguish over any combination of APA and Manohar. Specifically, claim 1 recites the following features of the auxiliary cooling circuit:

an auxiliary cooling circuit which once releases heat from a refrigerant discharged from the compressor and then returns the refrigerant to the compressor, and a fan which ventilates the auxiliary cooling circuit and the gas cooler, wherein the auxiliary cooling circuit has substantially the same ventilation area, in the fan ventilation direction, as that of the gas cooler;...

In addition, claim 1 requires a first and second compression element and an internal heat exchanger, as specified in the claim.

Clearly, neither APA, nor Manohar discloses the feature of the claimed invention of which, “the auxiliary cooling circuit has substantially the same ventilation area, in the fan ventilation direction, as that of the gas cooler;...” While a previous Office Action indicated that, “Applicant has not defined what constitutes “substantially the same area”.”, Applicants respectfully disagree. Specifically, the specification states on page 18 the following:

That is, the inter cooler 151 of the intermediate cooling circuit 150 and the gas cooler 155 have substantially the same ventilation areas.

This language in the specification refers to Fig. 3. Furthermore, on page 24 of the specification, lines 13-18 state the following:

When the inter cooler 151 of the intermediate cooling circuit 150 has substantially the same ventilation area as that of the gas cooler 155 in this manner, manufacturing the micro-tubes having one shape which can be used for the both coolers can suffice, and hence the production cost can be decreased.

Thus, it is clear from Fig. 3 that the inter cooler 151 and the gas cooler 155 have substantially the “same ventilation area”. The advantage stated above is that the use of micro-tubes having the same shape can be used for both the gas cooler and the auxiliary cooling circuit. This can clearly be contrasted with Fig. 5 in which the auxiliary cooling circuit (inter cooler 151 only constitutes about one third of the “ventilation area”. The gas cooler 155 constitutes approximately two-thirds of the “ventilation area” as described above.) Clearly, the same shape of micro-tubes cannot be used for both the auxiliary cooling circuit and the gas cooler, and thus the auxiliary cooling circuit and the gas cooler of Fig. 5 do not have the same ventilation area, in the ventilation direction.

Thus, it is clear from the amendment to claim 1, and the language in the specification, cited above, and from Fig. 3 (particularly when contrasted with Fig. 5), that the “ventilation area, in the fan ventilation direction, is substantially the same for the auxiliary circuit and the gas cooler. This feature is not disclosed in APA, nor is there any disclosure of it in Manohar. Manohar only discloses a schematic diagram of the functionality of the compressor system, and does not disclose anything about the “ventilation area in the fan ventilation direction”. Accordingly, even a combination of APA with Manohar does not disclose the claimed features of amended claim 1.

In view of the amendments to the claims, and the remarks set forth above distinguishing the claimed invention from the cited prior art references, Applicants submit that the Examiner’s rejection has been overcome. It is respectfully requested that the rejection be withdrawn and that claims 1, 2, 4 and 6 be passed to allowance.

CONCLUSION

In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

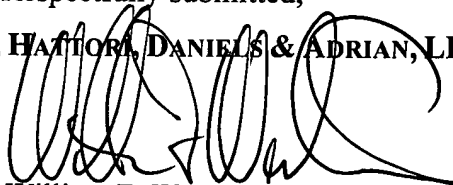
If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

Application No. 10/777,220
Art Unit: 3744

Amendment under 37 C.F.R. §1.111
Attorney Docket No.: 042102

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

A handwritten signature in black ink, appearing to read 'W. F. Westerman', is written over the firm name.

William F. Westerman
Attorney for Applicants
Registration No. 29,988
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

WFW/dlt